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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/689,084

10/21/2003

Jang-Hyoun Youm

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21171

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05/26/2006

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EXAMINER

MCCLOUD, RENATA D

ART UNIT

PAPER NUMBER

2837

DATE MAILED: 05/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/689,084	Applicant(s) YOUM ET AL.	
	Examiner Renata McCloud	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2006.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4,7,9,10,15-21,25 and 30 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1,3,4,7,9,10,15-21,25,30 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1,3,4,7,9,10,15-21,25,30 are rejected under 35 U.S.C. 102(b) as being anticipated by Hakala et al (US 5847533).

Claims 1,7,13, 30: a motor controller comprising an inverter (Fig. 3:70) comprising a bridge circuit having a plurality of first and second switching circuit units (Fig. 1:3; col. 2:21-25); brake relays (Fig. 3:84;) short circuiting the motor windings (col. 3:62-4:8); brake resistors (Fig. 1:58,60, Fig. 3:78,80,82) connected to the windings and consuming an overcurrent generated by the motor when the relays short the winding (col. 1:25-31, 2:48-633:40-45); and a switching controller (Fig. 1:46, 3:146) turning on and off one of the first and second switching units provided in opposite ends of the inverter so that the overcurrent consumed by the brake resistors is changeable in proportion to a rotation speed of the motor (Col. 3:50-63, 3:5-29 speed=frequency=duty cycle), wherein the overcurrent consumed by the resistors is changed in proportion to a duty cycle of the switching units (Col. 3:5-29; speed=frequency=duty cycle; col. 3:40-45)

Claims 3, 9,15: a speed detector (Fig. 1:49) detecting the motor speed (col. 2:30-36), wherein the switching controller (Fig. 1:46) turns on and off the switching units so that the duty cycle of one of the switching units is in proportion to the speed of the motor (col. 2:27-39; col. 3:40-45)

Claims 4,17: the switching units comprise a transistor and a diode in parallel (Fig. 1: 32 and 52 in parallel).

Claim 16: the switching units (Fig. 1:52-57) comprise first and second switching units (Fig.1: upper bridge 52-54 and lower bridge 55-57) connected in parallel to the motor (Fig. 1: 2), wherein the controller turns on and off the first and second switching units so that the duty cycle is in proportion to the rotation speed of the motor (Col. 3:5-29; speed=frequency=duty cycle; col. 3:40-45) detected by the speed detecting part (Fig. 1:49).

Claim 18: brake relays (Fig. 1:66,64; Fig. 3:84) to short circuit the motor by turning on when the motor brakes and to prevent the motor from rotating by an external force (col. 3:45-52; 3:62-4:8)

Claim 19: the speed detector (49) transmits the detected speed to the controller to control the switching units to turn on and off by the duty cycle changed in proportion to the speed (Col. 3:5-29; speed= pulse frequency=duty cycle; col. 3:40-45).

Claim 21: when the overcurrent is generated, power from the motor is consumed in the brake resistor in proportion to a time the overcurrent flowing through the brake resistor (Col. 3:5-29; col. 3:40-45; speed= pulse frequency=duty cycle, which are all functions of time).

Claims 20, 25 the overcurrent from the motor is shunted/diverted through the switching units and the overcurrent flowing is reduced through the brake resistors (fig1: 60,58; fig3: 78,80,82; col. 2:47-55) connected between the switching units (fig 1:52-57; fig 3:70) when the switching units are on (col. 2:47-55), and the overcurrent flows through the brake resistors (fig1: 60,58; fig3: 78,80,82) and is prevented from flowing through the switching units (fig 1:52-57; fig 3:70) when the switching units are off (col. 1:50-53).

Response to Arguments

3. Applicant's arguments with respect to claims 1,3,4,7,9,10,15-21,25,30 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (571) 272-2069. The examiner can normally be reached on Mon.- Fri. from 5:30 am - 2pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-2800 ext. 37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Renata McCloud
Examiner
Art Unit 2837

RDM


LINCOLN DONOVAN
PRIMARY EXAMINER
GROUP 2100